



**SHERWIN  
WILLIAMS.**

# Product Finishes

CC-E13

# KEM AQUA<sup>®</sup> 280 Water Reducible Enamel

Gloss Black .....F78B501  
 Low Gloss Black.....F78B531  
 Silver .....F78S513  
 Low Gloss Clear.....F78T532

Gloss Blending White.....F78W500  
 Low Gloss Blending White...F78W530  
 Gloss Blending Clear .....F78T504  
 Custom Blend.....F78WX Series

<u>DESCRIPTION</u>	<u>CHARACTERISTICS</u>	<u>SPECIFICATIONS</u>
<p><b>KEM AQUA<sup>®</sup> 280 Water Reducible Enamel</b> is a 2.8 lb/gal VOC* fast drying water reducible acrylic modified alkyd coating intended for industrial product finishing and refinishing applications. It's VOC and the reduced hazards of water reducible technology and versatility of application make it an ideal coating for a wide array of general metal applications.</p> <p><b>Advantages:</b></p> <ul style="list-style-type: none"> <li>• VOC as packaged &lt;2.8 lb/gal, 336 g/L*</li> <li>• Fast air drying</li> <li>• Good one coat protection-much better corrosion resistance than latex coatings in typical OEM applications</li> <li>• Good adhesion and early water resistance</li> <li>• Reduces with water**- means considerable cost savings in solvents</li> <li>• Very good exterior color and gloss retention</li> <li>• Application by conventional, airless, air assisted airless, HVLP, electrostatic spray, and by dipping</li> <li>• No critical recoat time</li> <li>• Available in a broad range of colors</li> <li>• Use water to cleanup spray guns and equipment</li> <li>• Good flexibility and mar resistance</li> </ul>	<p><b>Gloss:</b> Full Gloss 80+ units        Low Gloss 2-10 units</p> <p><b>Volume Solids:</b> 29-36%        may vary by color</p> <p><b>Viscosity:</b> (Approximate Range)        40-60 seconds #5 Zahn Cup        85-95 Krebs Units        reduced 10-15% with water        20-30 seconds #2 Zahn Cup</p> <p><b>Recommended film thickness:</b>        Mils Wet 4.0 - 5.0        Mils Dry 1.0 - 1.25</p> <p><b>Spreading Rate</b> (no application loss)        370-580 sq ft/gal @ 1-1.25 mil dft</p> <p><b>Drying</b> (1.0 mils dft, 77°F, 50% RH):        To Touch: 20-30 minutes        To Handle: 60-75 minutes        Tack Free: 30-45 minutes        To Tape: 60-75 minutes        To Recoat: 30 minutes        Force Dry: 15-20 minutes at 150°F</p> <p>Note: Good air movement and humidity control is necessary for proper drying of water reducible coatings.</p> <p><b>Flash Point:</b> 142°F PMCC</p> <p><b>Package Life:</b> 1 year, unopened        F78S513 6 months, unopened</p> <p><b>pH:</b> 8.5-8.9</p> <p><b>Air Quality Data:</b></p> <ul style="list-style-type: none"> <li>• Non-photochemically reactive</li> <li>• Volatile Organic Compounds (VOC)          Theoretical as packaged, maximum, less water and exempt solvents          2.8 lb/gal, 336 g/L</li> </ul> <p>An Environmental Data Sheet is available from your local Sherwin-Williams facility or at <a href="http://www.paintdocs.com">www.paintdocs.com</a>.</p>	<p><b>General:</b> Substrate should be free of grease, oil, dirt, fingerprints, drawing compounds, any contamination, and surface passivation treatments to ensure optimum adhesion and coating performance properties. Consult Metal Preparation Brochure CC-T1 for additional details.</p> <p><b>Aluminum:</b> Prime with Kem Aqua<sup>®</sup> Wash Primer, E61G522 (See Additional Information section).</p> <p><b>Galvanized Steel:</b> Prime with Kem Aqua<sup>®</sup> Wash Primer, E61G522.</p> <p><b>Steel:</b> Remove rust, mill scale, and oxidation products. For best results, treat the surface with a proprietary surface chemical treatment of zinc or iron phosphate to improve corrosion protection. For additional protection, prime with Kem Aqua<sup>®</sup> 70P Water Reducible Metal Primer, or for a solvent based, 3.5 VOC complying primer, use Kem-Flash<sup>®</sup> 500 Low HAPS Primer. For best results on exterior applications, a primer is recommended.</p> <p><b>Testing:</b> Due to the wide variety of substrates, surface preparation methods, and application methods and environments, the customer should test the complete system for adhesion, compatibility and performance prior to full scale application.</p>

## APPLICATION

### Typical Setups

**Reduction:** To ensure optimal coating performance and stability, it is recommended to use deionized water for reduction.

### Conventional Spray:

Air Pressure ..... 45-50 psi  
Fluid Pressure..... 10-15 psi  
Tip..... .055-.070  
Reducer ..... water  
Reduction Rate ... as needed up to 10%

### Airless Spray:

Pressure ..... 1800-2300 psi  
Tip..... .011-.013"  
Reducer ..... water  
Reduction Rate ... as needed up to 10%  
Enamel may be heated up to 120°F for application.

### Air Assisted Airless:

Assist Air..... 20-30 psi  
Fluid Pressure..... 500-900 psi  
Tip..... .011-.013"  
Reducer ..... water  
Reduction Rate ... as needed up to 10%

### Electrostatic Spray:

Equipment must be isolated.  
Contact your equipment supplier or your Sherwin-Williams representative for proper set up.

### HVLP:

Atomizing Air Pressure at the cap...8-10 psi  
Fluid Pressure..... 8-10 psi  
Tip..... .055-.070  
Reducer ..... water  
Reduction Rate ... as needed up to 15%

### Dip: small tanks only

Reducer ..... water  
Reduction Rate ... as needed up to 15%  
a 3:1 blend of water and Butyl Cellosolve is necessary for tank maintenance. Excessive agitation or turbulence on part immersion or withdrawal may cause foaming. Tanks must be monitored for viscosity, pH range of 8.5-8.9, and stability. Adjust pH daily using triethylamine. Do not use ammonia. Organic solvent addition will raise VOC.

### Cleanup:

Clean tools/equipment immediately after use with water when paint is wet. When dry, use Butyl Cellosolve or MIBK. Follow manufacturer's safety recommendations when using any solvent.

## ADDITIONAL INFORMATION

### Performance Tests

Substrate: Untreated, cold-rolled steel panels with 1.2 mils dft  
Salt Spray Test  
ASTM B117 .....100 hours  
Humidity  
ASTM D2247, 100°F, 100% RH....100 hours  
Freeze Thaw .....Passes 4 cycles  
Pencil Hardness at one week..... 3B

- Multiple passes to obtain film build are recommended rather than a single heavy pass.
- Higher relative humidity will increase drying time.
- Do not spray at temperatures below 50°F.
- Indoor storage at 35-95°F is recommended. Protect from freezing.
- For longer term exterior applications, priming with Kem Aqua 70P Water Reducible Metal Primer or Kem-Flash 500 Primer is strongly recommended. Priming gives increased corrosion protection and film integrity. Example of such application are construction equipment, farm equipment, machinery, and trailers.
- Substrates such as pickled and oiled hot rolled steel give poorer adhesion and film integrity properties than clean, cold rolled steel. Proper cleaning to remove grease and oil is required for good performance. Use of Kem Aqua 70P Water Reducible Metal Primer or Kem-Flash 500 Primer significantly upgrades performance.
- Do not over-reduce Kem Aqua 280 Water Reducible Enamel. Water reducible enamels must be applied at higher viscosities than solvent based enamels.
- Water reducible coatings may cause corrosion in the presence of steel. Tanks, containers, piping and application equipment should be lined, stainless steel, or plastic.
- Do not exceed 150°F force drying temperature as coatings (especially whites) may yellow at higher temperature.
- A common property of water reducible alkyds, such as Kem Aqua 280, is a rise in viscosity (up to 25%) over time. If this occurs, the product can be reduced with water to the desired application viscosity without any detrimental effects on performance. If viscosity increases in excess of 25%, contact your local Sherwin-Williams Representative for assistance.

## ADDITIONAL INFORMATION

- Kem Aqua 280 is a modified alkyd and alkyds can yellow over time. This should be considered when using this product or any other alkyd coating.
- Do not use Kem Aqua 280 Water Reducible Enamel over latex primers like Kem Aqua 50P Water Reducible Primer.
- The Kem Aqua Wash Primer, E61G522 and Kem Aqua 280 system is not recommended for exterior service applications.
- Kem Aqua 280 is a thixotropic coating, therefore gravity feed viscosity cups should only be used as a reference.
- Kem Aqua colorants not to exceed 8 ounces per gallon.
- Gloss levels may be adjusted by using D64F505 Kem Aqua Flattening Base. Refer to data page CC-S13 for details.

## CAUTIONS

### FOR INDUSTRIAL SHOP APPLICATION

Thoroughly review product label and Safety Data Sheet (SDS) for safety and cautions prior to using this product.

Regulatory documents are available from your local Sherwin-Williams facility or at [www.paintdocs.com](http://www.paintdocs.com).

Please direct any questions or comments to your local Sherwin-Williams facility.

**Note:** Product Data Sheets are periodically updated to reflect new information relating to the product. It is important that the customer obtain the most recent Product Data Sheet for the product being used. The information, rating, and opinions stated here pertain to the material currently offered and represent the results of tests believed to be reliable. However, due to variations in customer handling and methods of application which are not known or under our control, The Sherwin-Williams Company cannot make any warranties as to the end result.